ADVANCES IN MATHEMATICS 47, 231 (1983)

Book Reviews

H. R. DOWSON, *Spectral Theory of Linear Operators*, Academic Press, 1978, 422 pp.

The proofs are beautiful and best possible. The presentation is complete. The historical notes impeccable. An indispensable complement to Dunford and Schwartz. Does this book presage the return of the single operator, long neglected in favor of algebras of such?

D. J. A. WELSH, *Matroid Theory*, Academic Press, 1976, 433 pp.

In this beautifully written and exceptionally thorough book, the case is made for one of the strangest and most mysterious notions ever to come out of the primeval forest of combinatorics, a generalization of linear algebra that is knocking at the algebraist's door, whose depth is matched only by its stubborn resistance to being reduced to any of the known versions of classical algebraic thinking.

J.-P. ANTOINE AND E. TIRAPEGUI (Eds.), *Functional Integration*, Plenum, 1980, 354 pp.

The Feynman path integral is proving to be the rigorizer's *pons asinorum*. Over the years, attempts to put it on a sound footing have spawned more good mathematics than any subject in physics since the hydrogen atom. Why can't multilinear algebraists turn their attention to the ideas in this book? But then, there are so few of them!

J. L. BELL, *Boolean-Valued Models and Independence Proofs in Set Theory*, Oxford Univ. Press, (Clarendon), London/New York, 1977, 126 pp.

A new paradise was opened for us when Paul Cohen invented forcing, soon to be followed by the reform of the Tarskian notion of truth that is the idea of a Boolean-valued model. Of some subjects, such as this one, one feels that an unfathomable depth of applications is at hand, an overhaul of our gut notions of what mathematical thinking is about. Required reading.

R. C. JEFFREY (Ed.), *Studies in Inductive Logic and Probability*, Vol. II, Univ. of California Press, 1980, 305 pp.

It was a goof of the late John Stuart Mill, the incorrigible child of philosophy, to place the term "inductive logic" on a par with the soundly established "deductive logic," and to think of it as a sort of deductive logic with a negative sign. Since then, the idea has fallen into the hands of professional oversimplifiers, bent on finding the laws of induction, cost what may, in parallel with the laws governing the syllogism and the existential quantifier. The inductive logicians are assuming the role of Einsteins in a subject that never had its Galileo. Why don't we tell the truth? No one has the faintest idea of how the process of scientific induction works, and in calling it a "process" we may be already making a dangerous assumption.

To be sure, the authors of the papers in this collection have contributed some substantial probability theory, which has no more to do with induction than Bayes's law does.

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Printed in Belgium

0001-8708/83/020231-01$07.50/0